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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application

HWANG, *et al.*

Serial No. 09/738,656

Filed December 15, 2000

: Examiner Lien Tran
: Art Unit 1761
: Facsimile No. (703) 872-9310For: COOKIES WITH IMPROVED SHELF
LIFE AND PROCESS FOR
PREPARING THEMAssistant Commissioner for Patents
Washington, D.C. 20231FAX RECEIVED
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Sir:

Kindly enter the following Request for Reconsideration in response to the Office Action dated December 19, 2002.

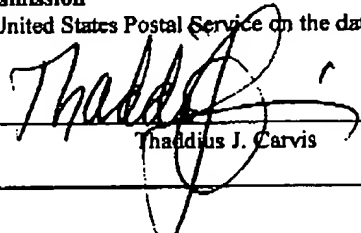
REQUEST FOR RECONSIDERATION

Reconsideration and allowance of claims 1-25, all of the claims pending in the application, are respectfully requested in view of the above amendments and the following remarks. No claims have been added or cancelled.

Certificate of Facsimile Transmission

I hereby certify that this paper is being transmitted by facsimile to the United States Postal Service on the date shown below to the telephone number for such listed in the Office Action.

March 19, 2003


Thaddeus J. Carvis

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The Invention

It will be recalled that the invention enables cookies to retain a freshly baked character over a substantial portion of their shelf life.

The independent claims pointedly center on freshness retention – an objective not dealt with in the prior art. The claims do not simply discuss the broader term “extended shelf life” referred to by the examiner in numbered paragraph 1 of the Office Action. The inventive concept of facilitating freshness of flavor retention is made possible through the claimed use of flavor chips of different sizes.

The invention is not recipe variation to accommodate mere whim. The invention is based on the research finding that the loss of freshness perception, which happens routinely during storage of commercially baked and distributed cookies, can be corrected by supplying flavor stores of freshness flavors to included chips for slow release. The invention supplies freshness factors anew from the chips as freshness leaves the basecake. Figure 1 depicts loss of flavor in the basecake portion of cookies over a storage period of eighty (80) days, a period of time which is well within the useful shelf life of commercially packaged cookies. See numbered paragraph [0003] in the published application which states:

FIG. 1 is a graph schematically representing typical data taken to quantify the maintenance of significant flavor compositions from the base cake portion of a chocolate chip cookie stored at a range of ambient temperatures as time progresses. These data are consistent with sensory evaluations. As used herein, the term “base cake” means the baked cookie dough crumb of a cookie and distinguishes it from any chips, nuts or other “inclusions” within the crumb.

Figure 2 is a graph showing how the invention can correct this. See numbered paragraph [0023] in the published application which states: “FIG. 2 is a graph showing that the migration of small concentrations of flavor from small chips (●) dispersed in the base cake portion of a cookie to the base cake portion, can stabilize the flavor of crumb portion...”

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Throughout the application, applicants emphasize that freshness stabilization is the central concern. Indeed, numbered paragraph [0002] explains that freshness and flavor are closely related and there is a need to control flavor and aroma stability. It states:

Fresh home-baked cookies have desirable, balanced and near-optimal flavor and texture profiles. This freshly-baked character changes over time, and the changes can be associated with staleness. Staleness in commercial cookie products can be related to a change in one or more of flavor, aroma and texture. Texture, especially for crisp cookies, can be adequately controlled for many recipes for reasonable time periods; however, flavor and aroma losses can be damaging to acceptance even where it is possible to stabilize textural changes. Unfortunately, flavor and aroma cannot be satisfactorily stabilized with known technology.

Then, in numbered paragraph [0003], it is explained that this connection between flavor and freshness was observed by applicants by testing freshly-baked cookies in the laboratory. The description states:

In an attempt to better understand the practical effects of these and possibly other mechanisms on the presence of flavors in cookies as time of storage progressed, applicant ran a series of tests on freshly-baked cookies analyzing them for important flavor components. FIG. 1 is a graph schematically representing typical data taken to quantify the maintenance of significant flavor compositions from the base cake portion of a chocolate chip cookie stored at a range of ambient temperatures as time progresses.

Again in the background, the description explains that initial flavor balance is lost – not all of the flavors equally – and that something unique had to be done to restore the flavor balance associated with loss of freshness perception. Numbered paragraph [0005] states in part:

While flavors can be initially balanced in freshly-baked cookies, they become progressively out of balance. For example, butter is a preferred shortening and provides pleasant flavor and aroma notes. Unfortunately, buttery flavor and aroma notes are significantly lost or diminished before the end of the desired shelf life. The simple addition of more butter flavor to the dough prior to baking is one possible solution, but adding amounts sufficient to last long periods can provide too strong of an initial flavor. Flavor addition in this manner is also an inefficient method because high flavor losses are associated with baking. Typically, flavor and aroma losses are pronounced for the base cake portion of a cookie, which is basically a mixture of aqueous phase ingredients. There is no known way to imbue cookies with fleeting flavors and aromas, like butter and vanilla, that will provide desirable near-optimum

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perceptions for freshly-baked cookies that will remain for storage-challenged products.

Then, the first stated object of the invention in numbered paragraph [0011], the inventors state: "... it is an object of the invention to provide a process for stabilizing cookie flavor and a cookie having the flavor stabilized such that the eating experience is less affected by storage times and conditions than when utilizing current technology."

Flavor and aroma are mentioned throughout the objects, and maintenance of freshness perception is directly tied to the invention and a problem that would be associated with a less inventive and less successful approach to the problem, namely the simple addition of more flavor to the base cake itself. The object in numbered paragraph [0013] states:

It is a more specific object of the invention to provide a cookie containing flavor chips which aid in the maintenance of freshness perception and do so without the creation of flavor "hot spots" and to provide a process for preparing it.

In numbered paragraph [0025], applicants specifically refer to tests that show that about a third of the key vanilla flavor components may be lost from baked cookies in less than two months and about one half of key butter flavor components may be lost within a month, and a full 80% of the freshness aroma may be lost in as little as a week. The present invention, however, provides a reproducible technology for ameliorating this loss of freshness flavors. See, again, for example, Figure 2 which depicts the migration of a particular cookie flavor (vanilla) over a period of 26 weeks, from vanilla flavor enhanced chocolate chips into a cookie basecake. Through the mechanism of the invention, cookie freshness can be maintained.

In the detailed description, in numbered paragraph [0027] applicants explain that their invention includes the use of small flavor chips with enhanced flavor levels to maintain freshness of flavor in cookie base cakes. The description states:

In another aspect, the invention supplies small enhanced flavor chips with high concentrations of added flavors to cookies (including those not normally associated with chips) for the purpose of extending the shelf life of the cookies by maintenance of a fresh-baked cookie flavor.

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The invention utilizes a mixture of small and large chips in its preferred aspects and meets the need for improved freshness retention in a manner never before described or made obvious by the art. In a discussion of the use of various chip sizes according to the invention, the description states in numbered paragraph 30, as follows:

Where chip perception is important, it is preferred that the smaller chips comprise at least 10%, e.g., at least 30%, by weight of the chips present in the dough and that the larger chips be employed in an amount sufficient to satisfy the consumers visual awareness that the cookies contain chips. ... The smaller chips, on the other hand, are subject to other criteria. For example, they should be there in sufficient number for uniform distribution throughout the crumb portion to achieve a measurable shelf life extension for the flavor of the cookies without creating flavor hot spots.

The description also describes a great number of flavors found to be associated with freshness. In numbered paragraph [0032], the description states:

Among the suitable added flavor compositions for the flavor chips employed according to the invention, are ... flavors associated with freshness. ... Other desirable flavors can comprise any other freshness notes ...

Extended freshness through flavor addition in a unique manner is at the heart of the invention. The specific means for achieving this is by adding extra flavor to small chips for controlled migration into the dough following baking. Numbered paragraph [0039] states in part:

The invention improves on the conventional dough compositions, however, by adding to the chips some of the same flavors (at least one) added to the dough for migration into the crumb portion during storage following baking to provide extended freshness perception.

Original claims fully brought out the intent of the invention to freshness. They did this by claiming the specific means adopted by applicants and explained in their description, quoted above, and by specific reference to the term freshness in claims 6, 13, 15, and 19.

The invention as thus described in detail has been rejected for reasons of support and definiteness under 35 U.S.C. §112 and for obviousness under 35 U.S.C. §103. These rejections are respectfully traversed.

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The 35 U.S.C. § 112, Paragraph 1, Rejection of Claims 1, 8, 15, 19 21 and 22.

Claims 1, 8, 15, 19 21 and 22 have been rejected under 35 U.S.C. § 112, first paragraph, for lack of support for the terms "a basecake, which is subject to diminished fresh flavor after storage" and "to supply to the basecake during storage over time at least one flavor composition effective to extend freshness perception for the cookie basecake". The examiner states: "[t]here is no discussion of diminished flavor after storage and certainly no discussion of extending freshness perception". Applicants specifically traverse this statement in light of the discussion directly above, which provides full and extensive discussion on this very point. The invention is definitely new and unobvious, and it is not without support in the description. If there are minor points in wording that the examiner finds missing in *ipsis verbis*, it is requested that a telephone interview be conducted to work out specifically needed wording.

The 35 U.S.C. § 112, Paragraph 2, Rejection of Claims 1, 8, 15, 19 21 and 22.

Claims 1, 8, 15, 19 21 and 22 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner states that the terms "freshness perception" and "fresh flavor" are indefinite because the scope of the claims cannot be determined from this language. The examiner asserts that the specification does not define these terms. This rejection is respectfully traversed.

While applicants believe that the terms "freshness perception" and "fresh flavor" would be understood by those skilled in the art, applicants have provided the following discussion in paragraph [0032] of the description:

Among the suitable added flavor compositions for the flavor chips employed according to the invention, are effective flavoring amounts of at least one member selected from the group consisting of buttery flavors, vanilla flavors, cream dairy flavors, caramel-like flavors, and other flavors associated with *freshness*. To some extent these flavors and their perceptions overlap, but *the test for whether one is present in amounts sufficient for any of these flavor effects will be best based upon*

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suitable instrumentally derived data (e.g., gas chromatography) and expert flavor panel evaluation. (Emphasis added)

Thus, applicants have provided a test, which is of the type normally employed in food science. An expert panel is given a standard of fresh flavor and asked to score samples based on their actual smell and taste. The same samples and standards are also measured by gas chromatography, or the like, for samples determined to have a fresh aroma by the expert panel. In this way, the actual amounts necessary for the perceived freshness perception can be calibrated in a particular product are routinely determined. Testing of this kind has become highly refined in food science due to the need to compensate for variation in the strength of flavors from various suppliers and the effects, both physical and chemical, on the flavors by processing and formulation variables. Thus, it is not possible for an invention of this type to be more precise and those skilled in the art are well equipped to determine the meaning of the terms from the specific examples and the indication of the type of testing described above.

The 35 U.S.C. § 103(a) Rejection of Claims 1-25

Claims 1-25 have been rejected under 35 U.S.C. § 103(b) as unpatentable over Haynes, *et al.*, in view of the "Original Chocolate Chip Cookies Recipes" reference (hereinafter, Cookies Recipes). Applicants rely upon all of their arguments presented in response to earlier office actions.

The examiner contends that if "different types of chip are added to cookies and the flavor of some chips are enhanced over the other, then the benefit of extending freshness will occur whether or not it is disclosed." The examiner explains:

For example, the chips disclosed by Haynes *et al* are enhanced flavored chip; if such chips are used with regular chocolate chips, then some chips will have more flavoring composition over the other chips.

It remains, however, that no reference specifically teaches the proposed combination claimed and the invention is productive of an unexpected result. It is respectfully submitted that this is not an appropriate case for looking at the inherent result of an untaught combination as obvious.

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Indeed, the invention is in part determining that the novel combination should be prepared and in part the discovery that once prepared it provides a solution to an old problem that would not have been obvious to a person skilled in the art at the time the invention was made. In the present fact situation, the references do not teach or suggest the specific combination for any purpose, much less applicants' improvement.

The examiner also states that the "claims do not set how much greater is the concentration of the enhanced chips over the other chips; thus, any minute amount will be considered as greater amount." This point is believed not supportive of a finding of obviousness in this case, because the amounts are described as different and that the added flavor "...be in a concentration greater than present in the basecake and other of said chips, to supply to the basecake during storage over time at least one flavor composition effective to extend freshness perception..." This is a measurable difference.

Further to the above point, claims 3-5, 8-20 and 23, each are further distinguished in that they contain limitations to chip size differentiation in addition to flavor enhancement in the smaller of the chips. This further point of novelty makes the conclusion of obviousness even more remote from the meaning one skilled in the art would have associated with the multiplicity of choices made possible by the references. There is no motivation for using different flavor concentrations in specific of differently sized chips for any purpose, much less for applicants' objectives.

The examiner also states that applicants' assertions regarding the length of storage stability is not commensurate with the scope of the claims. However, applicants' results summarized in Figure 2 show that vanilla flavor added to small chips can stabilize the flavor of the crumb portion for 26 weeks, *i.e.*, about six months. This is a very real and substantial improvement when compared to the flavor loss that would be expected from the data summarized in Figure 1. The invention is highly effective in achieving a result the prior art did not know how to approach.

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Conclusion

Applicants have made a significant contribution to the art by providing a technology for retaining the freshness in cookies. Their contribution is not simply providing flavor variation or chip size variation for added interest. The improvement is a non-obvious use of enhanced flavor chips for the targeted purpose of carrying migratory, shelf life extending flavors to basecakes which would otherwise lose freshness. Importantly, the use of small enhanced flavor chips as a vehicle for adding flavor to a chip containing cookie and thereby extending cookie shelf life is a concept nowhere addressed, mentioned or remotely suggested by the Haynes or Cookie Recipes references, taken alone or in any possible combination.

Respectfully submitted,



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